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REMARKS

The application has been reviewed in light of the final Office Action dated December 15, 2005. Claims 94-97 were pending, with claims 1-93 having previously been canceled, without prejudice or disclaimer. The Office Action indicates that claims 96 and 97 have been allowed.

By this Amendment, new dependent claims 98-106 depending from allowed claim 96 have been added. Since claim 96 has been allowed, claims 98-106 are allowable for at least similar reasons and no new issues are introduced. Accordingly, claims 94-106 are now pending, with claims 94 and 96 being in independent form.

Claims 94 and 95 were rejected under 35 U.S.C. § 102(b) as purportedly anticipated by U.S. Patent No. 5,868,837 to DiSalvo. Claims 94 and 95 were rejected under 35 U.S.C. § 102(b) as purportedly anticipated by U.S. Patent No. 6,270,569 to Shibata et al.

Applicant has carefully considered the Examiner's comments and the cited art, and respectfully submits that independent claim 94 is patentable over the cited art, for at least the following reasons.

Independent claim 94 of the present application is directed to an optical semiconductor device having a specific structure, that is, it comprises a bulk crystal substrate of GaN, lower and upper cladding layers formed epitaxially on said bulk crystal substrate of GaN, and an active layer formed epitaxially between said lower and upper cladding layers.

DiSalvo and Shibata do not disclose or suggest such an optical semiconductor device.

DiSalvo, as understood by Applicant, is directed to a method of preparing GaN single crystals. The method proposed by DiSalvo comprises reacting gallium and nitrogen in a sodium flux at a temperature ranging from 600° to 850° in a reaction system containing only gallium, sodium, and nitrogen.

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DiSalvo states at column 2, lines 56-57 that GaN single crystals can be used as substrates for homoepitaxial GaN film growth. DiSalvo states elsewhere that GaN single crystals can be used for blue light emitting diodes and laser diodes.

However, Applicant does not find teaching or suggestion in DiSalvo of an optical semiconductor device comprising a bulk crystal substrate of GaN, lower and upper cladding layers formed epitaxially on said bulk crystal substrate of GaN, and an active layer formed epitaxially between said lower and upper cladding layers, as provided by claim 94 of the present application.

It is contended in the Office Action that a semiconductor light emitting device including a bulk crystal substrate of GaN inherently has the structure of claim 94.

Applicant disagrees. Attention is directed to examples of laser diode devices in U.S. Patents Nos. 6,985,505 and 6,757,314 which do not have the structure recited in claim 94.

Shibata, as understood by Applicant, is directed to a method of fabricating nitride crystal. More specifically, Shibata proposes a method wherein a gas containing N atoms is injected into a Ga melt contained in a crucible at a temperature lower than the melting point of the nitride to be obtained.

Applicant does not find (and the Office Action does not cite to any) disclosure or suggestion in Shibata or DiSalvo, however, of an optical semiconductor device comprising a bulk crystal substrate of GaN, lower and upper cladding layers formed epitaxially on said bulk crystal substrate of GaN, and an active layer formed epitaxially between said lower and upper cladding layers, as provided by claim 94 of the present application.

Accordingly, for at least the above-stated reasons, Applicant respectfully submits that independent claim 94 and any claims depending therefrom are patentable over the cited art.

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In view of the amendments to the remarks hereinabove, Applicant submits that the application is now in condition for allowance, and earnestly solicits the allowance of the application.

If a petition for an extension of time is required to make this response timely, this paper should be considered to be such a petition. The Office is hereby authorized to charge any fees that may be required in connection with this amendment and to credit any overpayment to our Deposit Account No. 03-3125.

If a telephone interview could advance the prosecution of this application, the Examiner is respectfully requested to call the undersigned attorney.

Respectfully submitted,

  
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